



[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee; Engine Bird Ingestion Requirements – New Task

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of new task assignment for the Aviation Rulemaking Advisory Committee (ARAC).

SUMMARY: The FAA assigned ARAC a new task to review and assess the adequacy of certain portions of the existing engine bird ingestion requirements . This notice is to inform the public of this ARAC activity.

FOR FURTHER INFORMATION CONTACT: Alan Strom, Rulemaking and Policy Branch, ANE-111, Engine and Propeller Directorate, FAA, 12 New England Executive Park, Burlington, Massachusetts, 01803, telephone (781) 238-7143, facsimile (781) 238-7199; e-mail alan.strom@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA established ARAC to provide advice and recommendations to the FAA Administrator on the FAA's rulemaking activities with respect to aviation-related issues. This includes obtaining advice and recommendations on the FAA's commitments to harmonize FAA Regulations with its partners in Europe and Canada.

Amendment 33-20, adopted September 5, 2000, revised the bird ingestion type certification standards for aircraft turbine engines to better address the actual bird threat encountered in service. These requirements were adopted, in part, as a response to National Transportation Safety Board (NTSB) safety recommendation A-76-64. The NTSB recommended

increasing the level of bird ingestion capability for aircraft engines. Amendment 33-23, adopted October 17, 2007, added requirements to address larger flocking birds, mass greater than 1.15 kg (2.5 pounds), since existing engine certification requirements did not specifically address the threat that these size birds, or their growing population, present to airplane operational safety. Medium bird ingestion criteria for small engines were established consistent with corresponding criteria for medium and large engines, which is freedom from multiengine power loss events at a rate of $1\text{E-}8$ per aircraft cycle. The objective of the ARAC task is to evaluate whether the requirements for small and medium bird core ingestion and the large flocking bird requirements for engines with 1.35m^2 - 2.5m^2 inlet areas should be revised.

The Task

Review and assess the standards and advisory material for bird ingestion requirements as follows:

1. Evaluate the core ingestion element of small and medium bird requirements to determine if the intended safety objective of the current rule is adequate. Consider the threat from large flocking bird species in this assessment. Identify any deficiencies in the current rule, and provide the FAA with recommendations for changes as appropriate.

2. Evaluate large flocking bird requirements, to determine the need for new large flocking bird requirements, or advisory material, or both, for Class D engines (1.35m^2 - 2.5m^2 inlet areas). Identify any deficiencies of the current rule, and provide the FAA with recommendations for changes as appropriate.

3. Review and consider the following related National Transportation Safety Board (NTSB) safety recommendations when evaluating items 1 and 2 above:

- a. "A-10-64: Modify the 14 Code of Federal Regulations § 33.76(c) small and medium flocking bird certification test standard to require that the test be conducted using the lowest expected fan speed, instead of 100-percent fan speed, for the minimum climb rate."

b. “A-10-65: During the bird-ingestion rulemaking database (BRDB) working group’s reevaluation of the current engine bird-ingestion certification regulations, specifically reevaluate the 14 Code of Federal Regulations § 33.76(d) large flocking bird certification test standards to determine whether they should: 1) Apply to engines with an inlet area of less than 3,875 square inches and 2) Include a requirement for engine core ingestion. If the BRDB working group’s reevaluation determines that such requirements are needed, incorporate them into 14 CFR § 33.76(d) and require that newly certificated engines be designed and tested to these requirements.”

4. Define an industry led process for periodic update and review of engine bird ingestion data, such that industry and the authorities can maintain an awareness of the bird threat experienced in service.

Tasks 1 through 4 above should consider the Aerospace Industries Association engine bird ingestion database recently updated in coordination with FAA and the European Aviation Safety Agency. That database update was in response to the US Air Flight 1549 Hudson River accident in January 2009 and related NTSB safety recommendations.

The final ARAC report should include a summary of the overall work scope, conclusions and rationale for all recommendations related to the above tasks.

Schedule: Required completion is no later than March 31, 2015

ARAC Acceptance of Task

ARAC accepted the task and will establish the Engine Harmonization Working Group (EHWG), under the Transport Airplane and Engine Subcommittee (TAE). The working group will serve as staff to ARAC and assist ARAC in the analysis of the assigned tasks. ARAC must review and approve the working group's recommendations. If ARAC accepts the working group's recommendations, it will forward them to the FAA.

Working Group Activity

The EHWG must comply with the procedures adopted by ARAC. As part of the procedures, the working group must:

1. Recommend a work plan for completion of the task, including the rationale supporting such a plan for consideration by the subcommittee.
2. Conduct a review and analysis of the assigned tasks.
3. Draft the recommendation report based on the review and analysis of the tasks and any other related materials or documents.
4. Present the recommendation at a subcommittee meeting.
5. Provide a status report at each meeting of the ARAC.

Participation in the Working Group

The EHWG will be composed of technical experts having an interest in the assigned task. A working group member need not be a representative or a member of ARAC. If you have expertise in the subject matter and wish to become a member of the working group, write to the person listed under the caption FOR FURTHER INFORMATION CONTACT expressing that desire. Describe your interest in the task and state the expertise you would bring to the working group. We must receive all requests by April 5, 2013. The Subcommittee Chair, the FAA Representative, and the Working Group Co-Chairs will review the requests and advise you whether or not your request is approved.

If you are chosen for membership on the working group, you must represent your aviation community segment and actively participate in the working group by attending all meetings, and providing written comments when requested to do so. You must devote the resources necessary to support the working group in meeting any assigned deadlines. You must keep your management chain and those you may represent advised of working group activities and decisions to ensure that the proposed technical solutions do not conflict with the position of

those you represent when the proposed recommendations are presented to the Subcommittee and ARAC for approval.

Once the working group has begun deliberations, members will not be added or substituted without the approval of the Subcommittee Chair, FAA Representatives, including the Designated Federal Officer, and the working group.

The Secretary of Transportation determined that the formation and use of ARAC is necessary and in the public interest in connection with the performance of duties imposed on the FAA by law.

ARAC meetings are open to the public. Meetings of the EHWG will not be open to the public, except to the extent individuals with an interest and expertise are selected to participate. The FAA will make no public announcement of working group meetings.

Issued in Washington, DC, on March 1, 2013.

Lirio Liu
Designated Federal Officer,
Aviation Rulemaking Advisory Committee

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